# Assessment Schedule – 2006

Mathematics: Use straightforward algebraic methods and solve equations (90147)

## Evidence Statement

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|  | **Achievement Criteria** | **No.** | **Evidence** | **Code** | **Judgement** | **Sufficiency** |
| **Achievement** | Solve equations.  Use straightforward algebraic methods. | 1(a)  1(b)  1(c)  2  3  4 | *x* = 7  *x* =  or –2.25  *x* = 0 or *x* = –4  3*x*2 – 7*x* + 2    *F* = 6 × (6 + 1) ÷ 2 = 21 | **A1**  **A1**  **A1**  **A2**  **A2**  **A2** | Or equivalent.  “7” must be identified as the answer.  Or equivalent.  Both solutions needed.  No alternative  Or equivalent.  Eg , etc  Or equivalent. | **Achievement:**  Part 1  2 of code **A1**.  **and**  Part 2  2 of code **A2**.  **Replacement evidence *could* be found in:** 6, 7 or 8 for any part and 5 for **A2** only. |
| **Achievement with Merit** | Use algebraic methods and solve equations in context. | 5  6  7 | =  *x* + 2*x* = 97  3*x* = 97  *x* = 32.333…  Peter must have at least 65 CDs.  8 classical CDs | **M**  **M**  **M** | **A2** for **f**actorising.  Or equivalent.  CAO is **M (**or **A2)**  CAO is **M** or (**A1**)  **A2:** for solved with  algebraic working shown  Accept: The most Mary can have is 32.  CAO is **M (**or **A1)**  Solved with working **(A2)** | **Merit:**  Achievement **plus** 2 of code **M**  **or**  3 of code **M**.  **Replacement evidence:**  8 for 5, 6 or 7 |
| **Achievement with Excellence** | Use algebraic strategies to investigate and solve problems. | 8 | If *x* is the number of years  (*x* + 5)(*x* + 9) = 725  *x*2 + 14*x* + 45 = 725  *x*2 + 14*x* – 680 = 0  (*x* + 34)(*x* – 20 ) = 0  *x* = –34, 20  Since *x* has to be positive, the number of years is 20  **OR**  If *J* is James age  *J*(*J* + 4) = 725  *J* 2 + 4 *J* = 725  *J* 2 + 4 *J* – 725 = 0  (*J* + 29)( *J* – 25 ) = 0  *J* = –29, 25  Since *J* has to be positive, James will be 25 hence the number of years is 20  **OR**  If *J* is James & E is Emma’s age, solve sim eq  J × E = 725 and E = J + 4 | **E** | CAO (ie 20) is **A1**  A relevant correctly solved equation (or pair of simultaneous eqs) is evidence for either **A1** **or** **A2** **or** **M**.  A relevant equation (or pair of simultaneous eqs) is formed and its positive solution used to find the number of years.  Algebraic statements:  eg J(J+4) = 725  or J × E = 725  and E = J + 4  with substitution or trial and error leading to the correct response are sufficient for **E.**  Without algebra, **A1.** | **Excellence:**  Merit **plus** code **E**. |

### Judgement Statement

**Mathematics: Use straightforward algebraic methods and solve equations (90147)**

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| Achievement | Achievement with Merit | **Achievement with Excellence** |
| Solve equations.  Use straightforward algebraic methods.  2 × A1  *and*  2 × A2 | Use algebraic methods and solve equations in context.  Achievement *plus*  2 × M  **OR**  3 × M | Use algebraic strategies to investigate and solve problems.  Merit *plus*  1 × E |